

# VEHICLE AND METHOD FOR OPERATING A VEHICLE TO REDUCE EXHAUST EMIS- SIONS

## Abstract

A method for operating a vehicle to reduce exhaust emissions is provided. The vehicle includes an engine, a motor, a battery for operating the motor, and a catalyst for reducing exhaust gas emissions. The vehicle is operated in a first mode when at least one predetermined condition is met. The first mode includes providing at least some of the desired vehicle output power with the motor. The engine is operated to quickly increase the temperature of the catalyst when the output power from the battery is within a first predetermined range. When the output power of the battery is outside the first predetermined range, the operation of the engine is adjusted to drive battery operation into the first predetermined range. When the at least one predetermined condition is not met, the vehicle is operated in a second mode based at least partly on driver demand and battery requirements.